

AMENDMENT

Please amend the above-referenced patent application as follows:

In the Title

Please amend the title to read as follows:

FUSION PROTEIN FUNCTIONING AS A MOLECULAR SWITCH

In the Abstract

The amended Abstract is as follows, and appears in a *marked* version in Appendix D.

Abstract of the Invention

The present invention is a two-domain, bi-functional fusion protein that functions as a molecular switch wherein the free energy released by the folding of a first domain of the fusion protein drives an unfolding of a second domain of the fusion protein, and vice versa. The molecular structure of the fusion protein is engineered so that, at any time, the folding of the first domain necessarily unfolds the other domain, and vice versa, thereby making the folded and unfolded states of the first and second domains mutually exclusive. This is accomplished by the insertion of a ubiquitin insert protein into a surface loop of barnase target protein subject to the structural design criterion that the N-C terminal length of the ubiquitin insert protein is at least two-times greater than the alpha-carbon-alpha-carbon length of the surface loop of the barnase target protein.

In the Specification

In order to support the number and nature of the amendments to the claims herein, pursuant to 37 CFR § 1.121(b)(3) and 37 CFR § 1.125(a) and (c), please replace the Original Specification with the *unmarked* (clean) Substitute Specification appearing in Appendix A, which *unmarked* Substitute Specification includes no new matter and is accompanied by a *marked* Substitute Specification, also including no new matter, appearing in Appendix B.